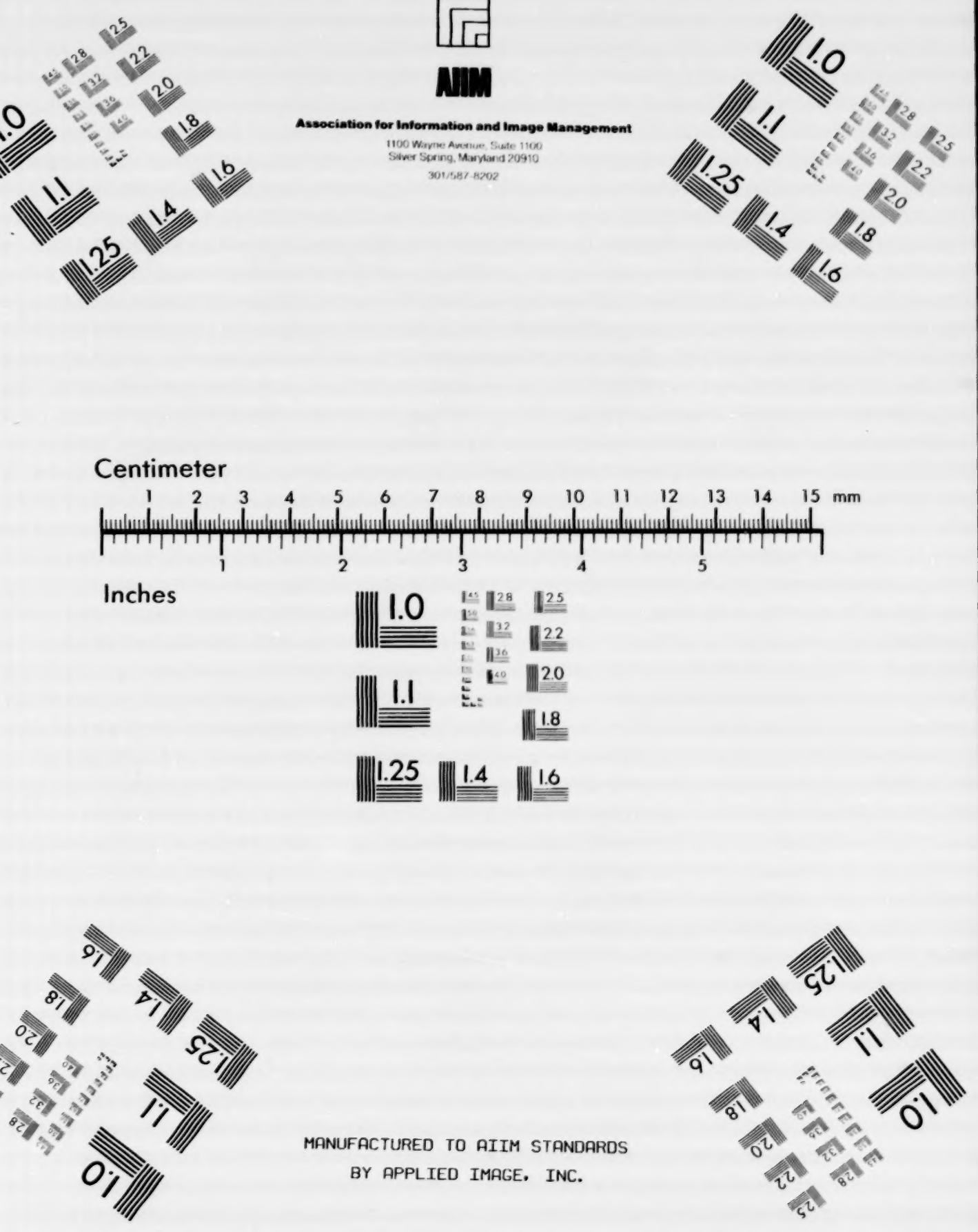
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ED 469 281 EC 309 207

AUTHOR Schumaker, Jean B.; Deshler, Donald D.; Lenz, B. Keith; Bulgren, Janis A.; Davis, Betsy; Grossen, Bonnie; Marquis, Janet

TITLE The Educational Context and Outcomes for High School Students with Disabilities: Overview of the Study and Findings. Research Report.

INSTITUTION Kansas Univ., Lawrence. Inst. for Academic Access.

SPONS AGENCY Special Education Programs (ED/OSERS), Washington, DC.

REPORT NO RR-1

PUB DATE 2002-00-00

NOTE 25p.

CONTRACT 84.324S

PUB TYPE Reports - Research (143)

EDRS PRICE EDRS Price MF01/PC02 Plus Postage.

DESCRIPTORS Academic Achievement; *Disabilities; Educational Environment; Educational Research; Environmental Influences; High Schools; *Inclusive Schools; *Outcomes of Education; *Regular and Special Education Relationship; Special Classes; *Student Placement; Teacher Attitudes; *Theory Practice Relationship

ABSTRACT

This research report discusses findings from descriptive studies that investigated the context and outcomes of educational programs for students with disabilities who were expected to receive standard high-school diplomas. The nine high schools included three in urban areas, three in suburban areas, and three in rural areas. Principals, special education administrators and teachers, general educators, students, and parents supplied information through interviews and/or questionnaires. Special and general education teachers were observed as they were teaching and students with disabilities were observed as they were being taught. Data were gathered on the instructional methods and materials being used. Results indicated that in only one of the schools was there a vision, policies, and standard procedures for educating students with disabilities within the general education curriculum and this was the only school utilizing research-based methods to teach students the strategies they needed to succeed. This school received the highest satisfaction ratings from general education teachers and students with disabilities. Most of the other schools were educating students with disabilities within subject-area courses taught by special education teachers in the special education classroom or in low-track courses designed for low-achievers. Students were not achieving and had low grade-point averages. (Contains 10 references.) (Author/CR)

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Research Report #1

The educational context and outcomes for high school students with disabilities: Overview of the study and findings

Jean B. Schumaker, Donald D. Deshler,
B. Keith Lenz, Janis A. Bulgren, Betsy Davis,
Bonnie Grossen, and Janet Marquis

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2002

EC 309207

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Sponsored by the U.S. Department of Education, Office of Special Education Programs Grant # 84.324S

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Abstract

This research report is a summary of a series of descriptive studies that have been completed on nine high schools in four states. Three of the schools were located in urban areas, three were located in suburban areas, and three were in rural areas. The purpose of the studies was to describe the context and outcomes of educational programs for students with disabilities who were expected to receive standard high-school diplomas and the outcomes of those programs. Principals, special education administrators and teachers, general education teachers, students, and parents all supplied information through interviews and/or questionnaires. Special and general education teachers were observed as they were teaching and students with disabilities were observed as they were being taught. Data were gathered on the instructional methods and materials being used. Results indicated that in only one of the schools was there a vision, policies, and standard procedures for educating students with disabilities within the general education curriculum and this was the only school utilizing research-based methods to teach students the strategies they need to succeed. This school received the highest satisfaction ratings from general education teachers and students with disabilities. In general, most of the other schools were educating students with disabilities within subject-area courses taught by special education teachers in the special education classroom or in low-track courses designed for low-achievers. Technology and research-based programs were not being used to educate these students. As a result, students with disabilities are not achieving, and their grade-point averages in core courses are low. Satisfaction ratings of all consumers are relatively low with few ratings falling in the "satisfied range."

Introduction

The record of American high schools has been abysmal relative to preparing adolescents with disabilities to respond successfully to the academic and contextual demands of secondary schools. This poor record is underscored by the findings of the National Longitudinal Transition Study (Wagner, Blackorby, & Hebbeler, 1993) which reported that a disproportionate number of students with disabilities (38%) dropped out of school (compared to 25% of the general population). Prior to dropping out of school, these students also evidenced a broad array of other performance and adjustment problems including: (a) higher rates of absenteeism; (b) lower grade-point averages; (c) higher course failure rates than those in the general population (Wagner et al., 1993); (d) feelings of poor self-esteem; and (e) higher rates of inappropriate social behaviors (Schumaker, 1992). Predictably, only a small minority of these individuals (approximately 25%) were found to pursue a post-secondary education (Wagner et al., 1993). In short, American high schools have not prepared students with disabilities to succeed in high school, let alone to face the demanding expectations of the globalization of commerce and industry, the dramatic growth of technology, and the dramatic transformation of the workplace and the very nature of work itself (Martin, 1999; Oliver, 1999; Rifkin, 1996).

As discouraging as the above state of circumstances appears, a host of emerging trends may exacerbate the situation even further for adolescents with disabilities. Foremost among these trends are: (a) the increased expectation that *all* learners, including those with disabilities, meet the curriculum standards adopted by states and professional organizations (Erickson, Ysseldyke, Thurlow, & Elliot, 1998; National Research Council, 1997); (b) the pressure to include adolescents with disabilities in the general education classroom for as much of the school day as possible (Wagner et al., 1993); (c) the explosion of knowledge and information and the growing expectation that all students not merely acquire but integrate thinking skills with their content-area knowledge in authentic problem-solving activities (Kameenui & Carnine, 1998); and (d) the clear expectations set forth in P.L. 105-17 that programming for students with disabilities be outcome-based within the context of successfully mastering the general education curriculum (Turnbull, Rainbolt, & Buchele-Ash, 1997).

Unfortunately, although some research is available related to how high schools might address these challenges (Bulgren & Schumaker, 2001) little is known with regard to the ways that high schools are currently serving students with disabilities who might be expected to earn standard high school diplomas. Thus, the purpose of this investigation, which was comprised of a series of studies, was to describe how students with disabilities are currently being served in their high schools and the outcomes of those services. Another purpose was to describe the rigorous general education courses in which they have to succeed in order to earn standard high school diplomas. Below is a summary of the methods and results for this series of studies.

Methods

Settings

Nine public high schools serving grades 9 through 12 participated. Three types of high schools participated. Three (hereafter referred to as "urban high schools") represented schools located in high-density areas (i.e., urban/metropolitan areas populated by more than 150,000 people) and in which more than 50% of the student population is comprised of "students living in poverty." "Students living in poverty" were defined for the purposes of this study as students who had applied for and received free or reduced-cost lunch benefits. Three of the high schools (hereafter referred to as "rural high schools") represented schools located in low-density population areas (i.e., towns of fewer than 10,000 people and fewer than 150 people per square mile) and in which more than 10% of the student population was comprised of students living in poverty. Three of the high schools (hereafter referred to as "suburban high schools") represented schools that were located in towns having a population of more than 45,000 people and fewer than 150,000 people and in which fewer than 10% of the student population was comprised of students living in poverty.

Three of the high schools (one urban, one rural, and one suburban) were located in Kansas. Three of the high schools (one urban, one rural, and one suburban) were located in the state of Washington. Two schools (one rural, one urban) were located in California. One school (suburban) was located in Oregon.

The student populations in the urban schools ranged in size from 1,031 to 3,508 students, while in the rural schools the populations ranged in size from 330 to 693 students. The student populations in the suburban schools ranged in size from 931 to 1,691 students.

The percentage of students with disabilities in the nine schools ranged from 3.9% in a suburban school to 14.8% in an urban school. Six of the schools had Caucasian majorities, ranging from 67% to 95% of the student population. One school had a Latino/Hispanic majority; one school had an African-American majority; and one had an Armenian majority.

Within these high schools, students were observed in three settings. One setting in which they were observed was the special education class setting. This was defined as any classroom or space in which a SWD was receiving services to assist him/her to succeed in general education courses. Students were also observed in general education classrooms in which rigorous ninth-grade general education courses were being taught. A rigorous general education course was defined as a math, English, social studies/history, science, or foreign language course that a student must pass in order to earn a standard high-school diploma, that contributes credits toward a standard high-school diploma (as in the case of a foreign language course), that has been designed for helping students meet state standards, and that was being taught by a teacher who has credentials in the subject area. The specific rigorous courses targeted for this investigation

were five courses typically taught to ninth graders: algebra I, ninth-grade English, biology, history, and Spanish I. Some students were also observed in settings before and after classes such as the hallways, lunch rooms, and school-entry areas. Teachers were observed in both special education classrooms and in general education classrooms.

Subjects

Students. The students with disabilities (SWDs) targeted in this project were students who had been formally classified as having a disability (e.g., a learning disability, emotional disorder/disturbance, behavioral disorder, physical disability, visual disability, hearing disability, or other health impairment) according to state guidelines. In addition, they were students who had either been enrolled in one or more rigorous general education course as defined above or who were judged by their special education teachers as students who could successfully have been enrolled in one or more rigorous general education course successfully if they had had the appropriate instructional support. These were students who were expected to earn standard high-school diplomas by their special education teachers. Hereafter, this will be the only type of student with disabilities referred to in this report.

In general education classes where no students with disabilities were enrolled, they were replaced in the study by "at-risk students." "At-risk (AR) students" were students who had each earned more than one failing grade in a required course in a previous semester or who were already failing at least one rigorous general education course as defined above at the time of the study. In addition, they were also students who had not been formally classified as having a disability.

A third group of students who participated were normally achieving (NA) students. These were students who were enrolled in the same ninth-grade English classes as participating students with disabilities and who were earning at least a "C" grade in the course. They were matched to the students with disabilities by gender and grade level.

All students and their parents were informed about the purpose and procedures of the investigation and asked to sign informed consent forms indicating their willingness to participate or their permission for their child to participate.

Parents. Participating parents were parents who had signed consent forms for their sons or daughters to participate in the investigation.

Teachers. The participating general education teachers were teachers who were teaching the targeted general education courses (algebra I, English, history, biology, Spanish I) to heterogeneous classes of students, including students with disabilities and/or at-risk students. These were teachers who were certified to teach their subject area (e.g., certified to teach algebra) and who volunteered and signed consent forms to participate. The special education

teachers were teachers who were providing special education services to students with disabilities as defined above. They also volunteered and signed consent forms to participate.

School administrators. The principal of each school participated.

Special education administrators. An individual who had been designated as the person responsible for administering the special education program in the school and who had an office/classroom in the school participated as the special education administrator.

Measurement

Measurement instruments were initially constructed based on the research questions to be addressed in the investigation. Then, an Advisory Board, comprised of experts in secondary education and special education, reviewed drafts of the instruments and provided input. In addition, Drs. Janet Marquis and Nona Tollefson, experts in the fields of measurement and statistical analysis, reviewed the instruments. Revisions were made in the instruments in response to the experts' feedback. Each survey instrument was piloted with 3-4 individuals to determine the time required for administration and to identify any confusing items. Observation systems were used in a few classrooms to determine whether independent scorers could use them reliably. Again, revisions were made as needed. The final instruments are described below; they are grouped according to the informant who responded to the instrument or the person who was observed through the use of the instrument. Copies of all instruments will be available in a notebook on the Display Table during the meeting on April 29th.

Student instruments. Students completed three forms. On the first form, called the **Student Survey**, students indicated, using a 7-point Likert-type scale, how much they agreed or disagreed with each item. Items related to their attitudes about learning (e.g., "I don't want to do the hard work in a challenging class."); academic skills (e.g., "For the things that I am asked to do in my high school classes, I feel that I have good skills to be successful."); beliefs (e.g., "I believe I can get better as a learner."); and relationships with adults and students in the school (e.g., "I have a close relationship with at least one adult in this school."). There was a total of 37 items on the survey.

On the second form, called the **Student Satisfaction Form**, students rated their satisfaction using a 7-point Likert-type scale for each item with "1" indicating that they were "Completely Dissatisfied" and "7" indicating that they were "Completely Satisfied." Two forms of this questionnaire were used, one for SWDs and one for normally achieving students. The items on the Student Satisfaction Form for SWDs related to their satisfaction with how their special education teachers help them succeed in general education classes, how their special education teachers and parents communicate, how their special education teachers are preparing them for life after high-school graduation, how the teachers of their required academic courses help them learn, their comfort with and outcomes associated with those academic courses, and

their overall high school experience. They were also asked to list three skills that they have learned in high school that have been very useful in succeeding in required courses, and three things they need to learn to get better grades in required courses.

The items on the Student Satisfaction Form for normally achieving students were the same as the items on the Satisfaction Form for SWDs except the wording was changed slightly. For example, the SWDs were asked to indicate how satisfied they were with how the *special education teacher* was helping them complete assignments for required courses, whereas the normally achieving students were asked to indicate how satisfied they were with how the *teachers of their required academic classes* were helping them complete assignments for required courses.

The third form, called the **Student Demographics Form**, was used to gather personal information about the participating students such as their age, race, sex, and whether they receive free or reduced-price lunches at school. There were 11 items on the form. Students responded by filling in the blank on about half of the items and by indicating the best answer among several answers for the other half of the items.

Students with disabilities were administered two tests. **The Multilevel Academic Survey Test (MAST)** was administered in order to provide a standard measure of student achievement across students in the different participating schools. This test yields achievement scores in reading and math. Percentile scores and grade-level achievement scores were utilized to describe the students. Additionally, the **vocabulary subtest of the *WAIS-III*** (or the WISC-R, as appropriate for age) was administered in order to obtain a measure of student ability across students in the different schools. Raw scores were utilized from this test to describe the students.

In addition, the students were observed using three observation systems. First, SWDs were observed in their special education classes using the **Student Support Class Observation System**. This system was a time-sample recording system comprised of a recording sheet and a behavioral code. In columns on the recording sheet, the observer recorded the student's behavior and other factors associated with the ongoing instruction during 10-second intervals. Specifically, in the first column, the observer recorded the target student's behavior using a few words or a phrase. In the remaining columns, the observer placed tallies indicating whether or not a given behavior was instructional or noninstructional, whether or not the instruction during that interval was research-based, the type of academic response the student made, the instructional approach being used with the student, the materials being used by the student, the instructional grouping in which the student was included, and the sensory modalities used by the student. The observer also noted the number of students and teachers with whom the student was interacting during the interval.

Second, SWDs (or at-risk students, if no students with disabilities were enrolled in a given class) were observed in rigorous general education classes using the **Student General Education Class Observation System**. This system was similar to the observation system used in special education settings to observe students in that it was a time-sample recording system comprised of a recording sheet and a behavioral code. In columns on the recording sheet, the observer recorded the student's behavior and other factors associated with the ongoing instruction during 10-second intervals. Specifically, in the first column, the observer recorded the target student's behavior using a few words or a phrase. In the remaining columns, the observer placed tallies indicating whether or not the student was involved in an instructional or noninstructional activity during the interval, whether or not the instruction during that interval was research-based, the type of academic response the student made, the materials used by the student, the instructional grouping in which the student was included, and the sensory modalities used by the student.

Third, SWDs and typically-achieving students were observed throughout a whole school day using the **Case Study Observational System**. This system was comprised of three observation forms. The **Class Observation Form** was used to record the student's behavior in relation to class activities, the number of contacts the student had with the teacher and other students, the number of minutes lapsed before the student began work after the class period began, the student's mood/demeanor, the student's seat location, accommodations made for the student, and the homework assignment. This form was used in every class in which the student was enrolled and which the student attended during the day he/she was scheduled to be observed (since some of the schools used block scheduling, some of the students did not attend all the classes in which they were enrolled on the day they were observed).

The **Non-Class Observation Form** was used to observe the student before school, between classes, during lunch, and after school while on school grounds. Again, the student's demeanor and behavior as well as the contacts made with teachers and students were recorded.

In all the students' classes, the **Class Description Form**, which contained eight open-ended items was used. The observer used this form to report, in sentence form, what had transpired during the class period. For example, the first item asked the observer to provide a general description of the lesson, the fourth item asked the observer to describe the relationship between the target student and other students, and the sixth item asked the observer to describe the general outcome of the class for the target student.

The students who were followed for a whole school day were also interviewed. The **Interview Protocol** included 13 open-ended questions that were asked orally of all the participating students individually. The students responded orally, and their responses were tape recorded and then recorded verbatim in writing by the observer. In general, the questions focused

on the student's reaction to the school day. For example, the students were asked to explain how the day had been typical or unusual, what was the best thing that happened during the day, what were the discouraging things that had happened during the day, and what were their plans after school.

Additionally, the same students were asked to discuss their answers to oral questions in small focus groups. Participating students with disabilities in a school were grouped together, and participating typically achieving students in a school were grouped together for these discussions. The **Student Focus Group Protocols** contained 12 questions for the students with disabilities and 11 questions for the typically achieving students. The only difference between the two protocols was that the students with disabilities were asked the question, "In light of the fact that you have a disability, how difficult is it to be successful in this school?," and the normally achieving students were not. Other questions related to such topics as the work load that they were carrying, their biggest worries about school, the helpfulness of the teachers, and barriers to their success in school.

Finally, data related to the participating students were gathered from school records using a form called the **Student Information Form**. Two versions of the form were created, one for the SWDs and one for the typically achieving students. The form was used to gather standardized test scores, the names of classes in which the student was enrolled, the semester grades earned by the student, the number of days the student was absent, suspended, or expelled, the number of disciplinary actions incurred during each year of high school, and scores on state competency exams. The only difference between the version for the SWDs and the typically achieving students was that there was a place on the version for the SWDs to record the scores earned on individually administered achievement and aptitude tests and information about the students' disabilities.

Parent instruments. Parents completed the **Parent Satisfaction Form**. Two forms of this questionnaire were used: one for parents of students with disabilities and one for parents of typically achieving students. The two forms were parallel, consisting of 56 items each. With the exception of a few wording differences, the items on both were similar. Items were grouped in eight major sections relating to such factors as the parents' satisfaction with their relationship with school personnel, the ways teachers were helping their children succeed in high school, the ways teachers were helping their children prepare for life after high school, and their children's enrollment in required classes. For the large majority of the items, the parents were asked to rate their satisfaction on a 7-point Likert-type scale ranging from "1" (Completely Dissatisfied) to "7" (Completely Satisfied). For three of the items, the parents were asked either to indicate their agreement with a statement on a 7-point scale or to indicate an answer of "Yes" or "No."

Parents also participated in focus groups. The **Parent Focus Group Protocol** was comprised of five open-ended questions posed to a small group of parents. The parents were each asked to respond to and discuss their answers to these five questions: "What do you consider to be the greatest challenge that your son/daughter faces in being successful in high school?"; "What do you expect your son/daughter to receive as a result of his/her high school education?"; "What are your expectations for the nature of special education services provided to your son/daughter in high school?"; "What skills and strategies does your son/daughter most need?"; "What guidance would you give us as we design interventions?" The parents' responses were audiotape recorded; after the session, their responses were written verbatim in sentence form.

Special education teacher instruments. Special educators completed four forms. The purpose of the **Special Education Teacher Information Form** was to gather personal information about the teachers. The form contained 27 items that focused on such information as the teacher's age, race, sex, educational history, teaching certifications, and history as a teacher.

The **Special Education Teacher Questionnaire** gathered information about the teachers' perceptions of their roles as special educators, how they spend their time at school, how they make decisions about how students will be enrolled in courses, their beliefs about what the students need in order to succeed in rigorous courses, barriers to students' success, and the types of training they felt they needed to help students succeed. Some of the questions were open-ended, and the teachers wrote in their responses in phrases or sentences. Some of the questions asked the teachers to rank the items in a list of items indicating the most important factor as "1" the second most important factor as "2," and so forth. Still other questions asked the teachers to specify the percentage of time or the number of hours per week that they spent engaging in a certain activity, and they wrote in numbers to respond to these items.

The **Types of Classes Form** gathered information about the types of classes in which the students with disabilities were enrolled. The form consisted of five pages, each corresponding to a different type of class: (a) classes taken for general education credit that were taught by a special educator (Type A); (b) classes taken for general education credit in which only low-achieving students and students with disabilities were enrolled that were taught by a general education teacher (Type B); (c) rigorous general education classes taught by a general education teacher and in which a heterogeneous population of students was enrolled (Type C); advanced placement classes (Type D); and other classes (e.g., electives such as physical education, art, band) (Type E). On each page were spaces where the teacher could specify the name of the course, the name of the teacher teaching the course, and the number of students with disabilities enrolled in the course.

The **Special Education Teacher Satisfaction Form**, the third form that special education teachers completed, gathered their satisfaction with the educational program for

students with disabilities in their school, its outcomes, and their own performance as teachers. The questionnaire included 47 items formatted with a 7-point Likert-type scale ranging from "1" (Completely Dissatisfied) to "7" (Completely Satisfied). The items were organized in six sections: those pertaining to how the general education teachers work with the special educator; those pertaining to the instruction provided by the general education teachers for the SWDs, those pertaining to progress reports created by general educators and shared with the special educator; those pertaining to student outcomes; those pertaining to professional development experiences in which the special educator had participated; and those pertaining to the special educator's own assessment of his/her performance with regard to ensuring SWDs' success (grades of "C" or above) in general education classes.

In addition to completing the three forms, the special education teachers were observed teaching in their classes with the **Special Education Teacher Observation System**. This system was a time-sample recording system comprised of a recording sheet and a behavioral code. The recording sheet included columns in which the observer recorded the teacher's behavior and other factors associated with the instruction taking place during 10-second intervals. In the first column, the observer recorded the teacher's behavior using a few words or a phrase. In the remaining columns, the observer placed tallies indicating whether or not a given behavior was instructional or noninstructional, whether or not the instruction was research-based, the type of instructional methods used, the instructional approach used, the materials used by the students, and the sensory modalities used by the students. The observer also indicated the number of students and teachers with whom the special education teacher was interacting during the interval.

Additionally, the observers completed four forms after observing the special education teacher. On the first form, the **Technology Form**, the observer recorded any technology that was used by the students at the teacher's direction during the class period being observed. The name of the technology that was used (e.g., the name of software, the name of the computer) and whether or not there was any evidence of a research base for the technology were recorded in handwriting in two columns on the form.

On the second form, the **Instructional Materials Form**, the observer recorded any instructional materials used by the students at the teacher's direction during the class period being observed. The name of the material and whether or not there was any research base for the material were recorded in handwriting in two columns on the form.

The third form, the **Classroom Climate Checklist**, contained nine items representing the type of classroom climate the teacher had created. For example, some of the items included whether the classroom was neatly arranged, whether there were motivational posters in the room,

and whether there were instructional posters or aids in the room. The observer simply checked "Yes" or "No" to indicate that the item was present or absent in the room.

The fourth form, the **Class Description Form**, contained nine items related to what had transpired during the class period. For example, the first item asked the observer to provide a general description of the lesson, the second item asked the observer to describe the overall atmosphere the teacher had created, and the third item asked the observer to describe the attitude of the students toward learning. All of the items were open-ended, and the observers wrote their answers in sentences under each item.

General education teacher instruments. General education teachers completed three instruments: the **General Education Teacher Information Form, the General Education Teacher Satisfaction Form**, and the **General Education Teacher Questionnaire**. The **General Education Teacher Information Form** was identical in format and content to the Information Form designed for the special education teachers. The **General Education Teacher Satisfaction Form** was similar in format and content, but the words were changed slightly to fit the general education focus. For example, the general education teachers were asked to indicate how satisfied they were with the way the special education teachers worked with them whereas the special educators were asked to indicate how satisfied they were with the way the general education teachers worked with them.

The purpose of the **General Education Teacher Questionnaire** was to gather information from the teachers about a particular course that they were teaching, including information about the instructional methods and assessments being used, the students enrolled in the course, demands associated with the course, teacher beliefs, and support received by the teacher from others in the school. The survey contained 90 items. For a majority of the items, the teachers were asked to indicate on a 7-point Likert-type scale ranging from "1" (Not at all) to "7" (A great deal) the extent to which, for example, they used a particular instructional method, type of assessment, or accommodation or the degree to which success in their course was dependent on students having a particular skill. For some items, the teachers were asked to rank them in importance in relation to other items. For other items, the teachers were asked to indicate the percentage of work time they spent on a given activity. Still other items were open-ended, requesting the teachers to write an answer either in phrases or sentences (e.g., "Please list the five most common adaptations/accommodations you regularly use in this course," "Please list the activities on which you collaborate with special education staff").

In addition to completing the three forms, the general education teachers were observed teaching one class with the **General Education Teacher Observation System**. This system was similar to the observation system used for the special education teachers in that it was a time-sample recording system comprised of a recording sheet and a behavioral code. In columns on

the recording sheet, the observer recorded the teacher's behavior and other factors associated with the instruction during 10-second intervals. In the first column, the observer recorded the teacher's behavior using a few words or a phrase. In the remaining columns, the observer placed tallies indicating whether or not a given behavior was instructional or noninstructional, the type of motivational or instructional method being used, the materials being used by the students, the way the students were grouped for instruction, and the sensory modalities being used by the students. The observer also indicated the number of students and teachers with whom the general education teacher interacted during the interval.

As in the special education settings, the observers completed four forms after observing the general education teacher. These forms were identical to the ones used in the special education settings. On the **Technology Form**, the observer recorded any technology that was used by the students at the general education teacher's direction during the class period being observed. On the **Instructional Materials Form**, the observer recorded any instructional materials used by the students at the teacher's direction during the class period being observed. On the **Classroom Climate Checklist**, the observer recorded whether nine items that might represent the type of classroom climate the teacher had created were present or absent. On the **Class Description Form**, the observer recorded, in sentence form, descriptions of what had transpired during the lesson.

School administrator instruments. Instruments completed by the school principals included the **Principal Satisfaction Form** and the **Principal Information Form**. In addition, the principal of each school was interviewed using the **Principal Interview Protocol.**

The **Principal Satisfaction Form** was designed to measure the principal's satisfaction with various aspects of the educational program for students with disabilities who were enrolled in general education classes. The questionnaire included 54 items, most of which were formatted with a question stem and a 7-point Likert-type scale with which the respondent indicated his/her satisfaction. The Likert-type scale ranged from "7" (Completely Satisfied) to "1" (Completely Dissatisfied). These items were grouped in eight sets. Specifically, the principals were asked to indicate their satisfaction with how the special education teachers worked with the general education teachers, how the general education teachers who teach required courses work with the special education teachers, how the special education teachers help students with disabilities succeed in required general education classes, the instruction provided by general education teachers for students with disabilities, the progress of students with disabilities in required general education classes, the overall outcomes related to the education of students with disabilities, their own performance with regard to ensuring success for students with disabilities, and the professional development experiences that had been provided to teachers with regard to ensuring the success of students with disabilities in the general curriculum.

The **Principal Information Form** was a survey instrument that contained 26 items. This form was designed to gather demographic and personal information about the principals such as their age, race, sex, number of years in the education profession, and educational history.

The **Principal Interview Protocol** consisted of 68 questions grouped in seven sections. The purpose of the interview was to gather information from the principals about the ways their schools were serving students with disabilities, providing professional development experiences with regard to serving students with disabilities, and their attitudes about serving students with disabilities. The questions related to the organization and curriculum of the school, programs that were currently serving students with disabilities, staff development experiences, planning with regard to ensuring students meet state standards, program evaluation activities, instructional and adaptive technology available to the students with disabilities, and the school budget as it related to serving students with disabilities and providing inservice programs for the staff.

Special education administrator instruments. Three instruments (the **Special Education Administrator Satisfaction Form**, the **Special Education Administrator Information Form**, and the **Special Education Administrator Interview Protocol**) designed to gather information from the special education administrators were parallel in form and content to the instruments designed for the principals except that the wording was changed slightly in some of the items to address the different job functions of the special education administrators. For example, the item "Total number of years as an administrator" on the Principal Information Form was changed to "Total number of years as a special education administrator" was on the Special Education Administrators' Information Form. This similarity in format and content was designed to enable comparisons of the responses of the principals and the special education administrators.

Additionally, the special education administrators were asked to fill out the **Special Education Services Form** designed to gather information about the special education services being offered in the school. Items related to the types of special education teachers and support staff working in the school, the numbers of each type of student with an exceptionality served in each general type of program (e.g., resource, self-contained), and names of the specific programs designed to support students with disabilities in rigorous general education classes.

School instruments. Several forms were filled out by researchers in order to collect data on the participating schools. The **School Climate Form** included 16 items that an observer recorded as either present or not present in the school. Example questions included "Are rules posted in the classrooms?," "Are there visual displays of student work?," and "Is there evidence of student academic goals posted?" This form was filled out by the researcher after taking a tour of the school.

The **School Data Form** contained places for researchers to record information about the school such as the number of different kinds of teachers in the school, the number of students

receiving free lunches, the number of students representing different racial groups served by the school, and the number of students enrolled in the five target courses in each grade in the school. The form offered a total of 84 spaces on which a researcher could record data.

The **School District Data Form** contained places for researchers to record information about the school district associated with a participating school. Information included the number of schools in the district, the number of teachers employed by the district, the number of students served by the district, the staff development hours required for teachers each year, and the dropout percentage for the district.

The **Municipality Data Form** contained places for researchers to record information about the town in which the school was located. For example, the population of the municipality and the tax base for the municipality were collected on this form.

The **State Data Form** contained places for researchers to record information about the state in which the participating school was located. Such information as the state requirements for high-school graduation, the total number of students enrolled in the state, and the average per-pupil expenditure in the state was collected on this form.

Results

The results of the studies are summarized here briefly. For more information, please refer to the individual research report related to the instrument and measures of interest.

Administrator Results

All of the administrators stated that they wanted to help SWDs be successful. However, eight of the nine high schools had no policy related to the inclusion of SWDs in general education courses. In addition, the same schools had no methods for evaluating the outcomes of special education programs and no plan for making improvements in these programs. Further, special education administrators were not familiar with the various academic tracks in which students could be enrolled within the general education curriculum.

Additionally, according to the administrators, the general educators and special educators seemed to be quite isolated from each other in seven of the nine schools. The budgets for general and special education were separate, the staff development activities were separate, the planning time was not coordinated in such a way that general and special educators could consult with or collaborate with each other, their roles were separated, and responsibility for educating SWDs was not shared. Furthermore, for the most part, general educators had not received instruction on how to teach SWDs.

Urban principals were much more satisfied with their staffs and the way they instruct students with disabilities than the suburban and rural principals. All of the urban principals' mean ratings were above 5.5 and several were above 6.3 on a 7-point scale. In contrast, many of the rural and suburban principals' ratings were in the 3- and 4-point range. When their ratings

were averaged together, the principals were least satisfied with the way teachers report the progress of SWDs to them.

Overall, the ratings of the special education administrators were lower than the ratings of the principals. Although the suburban administrators were the most satisfied group, none of their mean ratings were above 5.6. Most of the mean ratings for the administrators fell within the 2-point, 3-point, and 4-point ranges. The administrators as a group were least satisfied with the professional development experiences that had been provided to teachers to help SWDs succeed in general education classes. The mean rating for items in this section was 2.9 on the 7-point scale.

Special Education Results

In seven of the nine schools, there were no designated services for providing support to SWDs who were enrolled in general education classes. In the two schools in which these services were available, one had a resource program in which SWDs received help with their homework and some remedial instruction in basic skills. In the other school, students received instruction in learning strategies, help with homework, and some instruction in career and life skills. These were the only two schools in which the majority of SWDs were enrolled in rigorous general education courses. The exception was a special algebra class in each school in which SWDs were enrolled. Otherwise, the students were enrolled in heterogeneous classes taught by general education teachers. One of these schools was the only participating school in which a written policy related to inclusion was in place.

In the other schools, SWDs were either enrolled in subject-area courses specially designed for special education students taught by a special education teacher (five of the schools), or they were enrolled in subject-area courses specially designed for at-risk and special education students taught by a general education teacher or by a general educator teaming with a special educator. In courses taught solely by a special educator, students in several grades were often present in the classroom at the same time. Students worked independently on assignments and were often observed working on and asking the teacher for help on other assignments unrelated to the title of the course (e.g., working on math assignments when they were in English class). Thus, the roles of the special education teachers varied according to the types of classes they were teaching. In most of the schools, these teachers were teaching subject-area courses. The role of teaching the students skills and strategies was limited to only a few teachers in a few schools.

The special education teachers indicated that their most important roles with regard to supporting students in general education courses were teaching the students learning strategies and consulting with general education teachers. Before enrolling students in a general education

course, they reported that they consider the general education teacher's attitude about teaching SWDs first, and the teacher's instructional methods second.

Results of the special education class observations showed that teachers and students were engaged in instruction for varying amounts of time in these classes across the schools. In one school, the teachers were engaged in instructing the students as much as 72% of the class time, but in most schools, they engaged in teaching the students about half of the time. In addition, they interacted with the students about half of the time. The percentage of time students spent in instruction ranged from 39% to 91%, depending on the school. Not surprisingly, the more time teachers spent in instruction, the more time students spent engaged in instructional activities.

When they were instructing, special education teachers spent most of the time talking to students by either lecturing or giving directions. They also spent time monitoring students (watching students as they worked). They rarely used instructional methods that have been validated for teaching students with disabilities such as modeling, verbal rehearsal, and elaborated feedback. In only one school did teachers use research-based instructional programs, and those were the teachers who were teaching learning strategies. The teachers used few motivational behaviors during instruction, occasionally specifying expectations and giving brief feedback ("Good").

Overall, the special education teachers provided relatively low satisfaction ratings related to various aspects of their jobs, with many mean ratings falling in the "4" range on a 7-point scale. The teachers expressed the lowest satisfaction with the professional development experiences they had received related to supporting SWDs in general education classes and the outcomes that they were achieving with regard to supporting these students in general education classes. Mean satisfaction ratings varied widely across the schools, with no clear pattern as to location of the school.

General Education Results

In filling out the General Education Teacher Survey, 70 high-school teachers indicated that they frequently adapt curriculum and provide accommodations to improve the learning of students with disabilities. They also indicated that teaching strategies related to "how to learn" were of equal importance to teaching content. The teachers reported that smaller class sizes, more collaboration and communication with special education staff, and more competent staff are changes that are needed to help SWDs meet standards. On average, they reported spending between only 12 and 24 minutes per week in collaboration with special education teachers. Of interest is the fact that general education teachers believe that SWDs are more likely to be successful in life than are students without disabilities who are low achieving

Relative to factors that general education teachers believe contribute to academic failure for students with and without disabilities, teachers gave youth goals/attitudes and youth skills/abilities the highest rankings. They indicated that they believe school-wide structures and policies as well as instructional methods contribute least to academic failure. They also indicated that they believe student progress is satisfactory when about 50% of the students are mastering at least 50% of the content.

Through their written comments, the general education teachers indicated that they did not have an accurate idea of how many of their students or which students had disabilities. Even when they did know, they indicated that they rarely knew the nature of the disability. They reported that sometimes they learned of the disability so late in the school year that they could do little to help the student succeed in the class at that point.

When general education teachers were observed, they engaged in instruction a mean of 59%-89% of the intervals observed, depending on the school. For the largest portion of these intervals, they were addressing the whole group of students. They were involved in interacting with students for a mean of 70% to 95% of the intervals, again depending on the school. Spanish teachers were the most involved in instruction, for a mean of 84% of the intervals, and they interacted the most with students, for a mean of 94% of the intervals. The teachers spent the largest portion of instructional time engaged in lecture or reading aloud to students, in some schools for an average of as many as 94% of the instructional intervals. Other frequently observed teacher activities were giving directions, asking questions, and monitoring students as they worked. They engaged in few motivational behaviors. They also engaged in few, if any, research-based instructional methods. Math teachers used some modeling. They all utilized few, if any, accommodations. None of the teachers used Content Enhancement Routines, validated instructional methods for enhancing learning of all students (including those with disabilities) in subject-area classes. None of the teachers used technology-enhanced instruction.

When SWDs (or at-risk students, if no SWDs were enrolled) were observed, they engaged in instructional activities for a mean of 47%-72% of the intervals in general education classes. The amount of time they were engaged in instructional activities did not necessarily match the amount of time their teachers were engaged in the instruction. When they were engaged in an instructional activity (in most of the schools, more than 50% of the time), they spent the largest portion of time listening. They were expected to participate in whole-class activities for a mean of between 40% and 80% of the intervals. In addition, they were expected to be working independently some of the time in most of the classes (13%-25%). In some subject areas, small-group activities were in use for a mean of as many as 25% of the intervals.

Materials Results

The instructional materials used in ninth-grade general education courses in which SWDs were enrolled were examined. The courses included English language arts, biology, history, algebra, and Spanish. The texts incorporated only 50 to 60% of the features of considerate text. The readability of the texts ranged from five to seven grade levels higher than the reading levels of the students with disabilities taking the courses. Across the schools, students were observed using the same types of materials in their courses, but the amount of time that students spent using the various materials varied widely across the schools. For example, the mean percentage of intervals during which students were referring to visual aids and textbooks ranged from a low of 2% to a high of 50%. The use of teacher-made materials (e.g., handouts, assignment sheets) ranged widely, from 0% in a couple of schools to 47% in another. In all of the schools, students were using basic materials like pencils and paper at least 30% of the time. In none of the schools were students using computers or research-based materials.

In special education courses, the types of materials being used were somewhat similar across the schools, but as with the materials used in general education courses, the relative amount of time each type of material was used varied widely. In most of the schools, students were using basic materials, textbooks, and worksheets. In only two schools were computers being used by students. In one of those schools, they were used a mean of less than 1% of the intervals. In only one school were research-based materials in use for 5.7% of the intervals observed.

Student Results

The SWDs in this study were markedly different than students in the NA/AR group in terms of gender, ethnicity, and poverty. Surprisingly, they were relatively similar on measures of reading and math achievement. Specifically, 61% of the SWDs were males versus 47% males in the NA/AR group. For the SWD group, 22.12% were Hispanic/Latino, and 13.3% were African-American. In the NA/AR group only 9.5% were African-American, and 1% were Hispanic/Latino. Reports on free and reduced lunch programs for SWDs indicated that 19% received free lunches (versus 3.5% for NA/AR) and 6% received reduced lunch prices (versus 3.5% for NA/AR).

On the Multilevel Academic Survey Test (MAST), the raw scores for reading were 29.3 for the SWDs versus 33.5 for the NA/AR. Their mean math raw scores were nearly identical (12.2 for SWDs versus 13.2 for NA/AR). On a measure of ability as indicated by the WISC III Vocabulary Subtest, the mean standard score for the SWD sample was 8.

Record searches revealed that a very small percentage of the SWDs participate in rigorous general education classes taught by a general education teacher and in which a heterogeneous population of students is enrolled. Specifically, SWDs were enrolled in only

about 5% of the potential core classes in which they could be enrolled. For example, for a sample of 153 SWDs in an urban high school (assuming that each student could be enrolled in 4 core courses), there would be a potential of 612 rigorous course enrollments [153 x 4 = 612]). In this school, the actual number of rigorous general education enrollments was 8. In a suburban school, with 296 total possible enrollments for 74 students, only 1 actual enrollment was recorded. In short, SWDs are overwhelmingly enrolled classes taught by special education teachers or classes taken for credit in which only low-achieving students and students with disabilities are enrolled.

SWDs performed considerably poorer than their NA/AR counterparts in their course work as reflected by grade point averages (GPAs). Specifically, in core courses, 56% of the SWDs achieved GPAs of D or F, and 39% received GPAs of C. Thus, even though the majority of students are not enrolled in rigorous general education courses, they are still doing poorly in the courses in which they are enrolled. In contrast, only 18% of the NA/AR group received GPAs of D or F, and 49% received GPAs of C. On state assessments or national tests (e.g., the MAT or the ITBS), SWDs performed poorer than NA/AR students. For example, the percentage of SWDs receiving a score at or below the 20th percentile for reading achievement ranged from 86% to 100% across the schools. For math achievement, between 68% and 100% of SWDs scored at or below the 20th percentile, and for written expression, all of the SWDs scored at or below the 20th percentile. In contrast, the percentage of the NA/AR students scoring at or below the 20th percentile was less than half of the percentage of SWDs scoring at or below that level in each school. Finally, on the Student Survey, there were no discernable differences between the two groups on measures related to attitudes about learning, self-assessments about skills required to do well in school, and relationships with adults.

When SWDs were asked questions about how satisfied they were with their high school academic experiences and supports, most ratings were in the 4.5—5.5 range on a 7.0 scale (with 7.0 being completely satisfied). SWDs attending the suburban schools were generally more satisfied than students attending rural and urban schools. SWDs attending the suburban school where learning strategies were being taught were the most satisfied group. In fact, their mean ratings were above the 6.0 level (the "Satisfied" level) in all of the sections of the questionnaire except one. The level of satisfaction reported by the NA/AR students was comparable to the SWDs' ratings. On this same survey, students were also asked to report on the most useful skills that they have learned in high school. Each group rated English/language arts as the most useful and mathematics concepts as the second most useful. The groups were also similar in the degree to which they endorsed the usefulness of typing and computer skills. Interestingly, however, the groups were quite difference in their rating of the perceived usefulness of study skills, note taking, and life skills. In all cases, the NA/AR students rated these skills as more useful than did

the SWDs. This finding may be related to what was found in the special education observation study which indicated a lack of instructional emphasis in these areas.

Parent Results

In general, regarding communication and efficiency within the infrastructure of schools, parents reported that their students' school was not as responsive to the needs of SWDs as the parents would like. They cited little coordination or cooperation among special and general education teachers, exemplified by little awareness of students' Individualized Education Programs on the part of general education teachers. In addition, some parents noted lack of overall efficiency in assigning students to classes or correcting incorrect assignments to classes, frequent class-time interruptions and interruptions in the flow of instruction caused by changes in the classroom such as the use of student teachers.

Regarding responses to students with disabilities in the general education classroom, parents reported that few adaptations or accommodations were made to help their students in general education classes, that they were often ignored or considered lazy, and that students were less likely to ask questions in general education classes than special education classes for fear of being embarrassed.

Regarding parental hopes and expectations for their students, parents mentioned that they wanted their students to leave school with social competence and the academic skills that would allow them to function in future educational or employment settings. In terms of social competence, parents specifically mentioned that they hoped their children would learn self-advocacy skills, become self motivated, and have positive peer associations. Relative to their childrens' futures, parents wanted students to get a diploma, learn practical life skills, including computer training, and ultimately, be employed in a good job.

Regarding responses that schools could make to enhance the educational results for their students, parent suggestions included: special education teachers should provide more help for their students; students should be taught how to learn through learning skills and strategies, with special emphasis on reading and notetaking; instruction in these skills and strategies should be incorporated into general education classes; and, most importantly, these skills and strategies should be taught earlier than the high school years. Two interesting items of feedback included that parents attached value to self-contained special education classes for difficult required subject-area courses and that they did not always appreciate that teachers expressed to students what the parents perceived to be unrealistic expectations that the students would and should go to college.

When parents were asked to indicate how satisfied they were with various aspects of their children's educational program, many of the parents' ratings were low. In fact, only one mean rating for one section of the parent questionnaire reached the 6.0 ("Satisfied") level and that was

for parents of students enrolled in Suburban School #3 when they rated their relationship with school staff. Parents of students enrolled in that school were the most satisfied overall. Most of the other mean ratings by parents whose children were enrolled in the other suburban and the rural schools were in the 2-point, 3-point, and 4-point ranges. Overall, the parents of students in the urban schools were the most satisfied group with most of their mean ratings in the 5-point range.

Discussion

The results of this series of descriptive studies indicate that the educational programs designed for SWDs in most of the participating high schools are not what they could be, given the research-based programs that are available today. First, none of the programs are comprehensive programs including a number of components, such as intensive strategy instruction, homework support, research-based instruction in general education courses, and career/vocational preparation. Although some of the programs had one or two components, only one program (in Suburban School #2) was utilizing a research-based component (learning strategy instruction) and that component was not in use for large proportions of students' time in class. This school was the school which had the highest satisfaction ratings from general education teachers and the students with disabilities. It was one of the two schools in the study in which SWDs were enrolled in general education courses.

In the other seven schools, SWDs were either enrolled in subject-area courses taught by a special education teacher or in subject-area courses taught by a general education teacher (or team taught by a general and special education teacher) which had been specifically designed for low-achieving students and students with disabilities. Observations of the classes being taught in the special education classroom indicated that they were more like study halls where students in several grades worked independently on assignments than like actual subject-area courses.

These results are cause for concern because they indicate that, in most of the participating schools, SWDs are not receiving the benefits of the results of 25 years of research in the secondary special education field. Of course, the studies summarized here focused on only nine high schools, and these schools cannot be considered to be representative of all high schools across the nation. However, they are likely to be representative of some high schools across the nation, and IAA researchers, given their experience traveling throughout the nation and working with staff members in many schools and state departments, believe that they do represent many high schools.

This relatively discouraging portrait of how SWDs are being served in high schools and minimal use of research-based practices raises some critical questions that must be addressed in future research such as: (a) Are the existing research-based interventions not sufficiently applicable given the conditions present within today's high schools?; (b) Have teachers not been provided with quality professional development experiences that would enable them to effectively use the innovations?; (c) Is there a lack of administrative leadership supporting the

concentrated use of research-based practices?; and (d) Do teachers perceive a lack of alignment between the demands of statewide outcome assessments and research-based interventions? These and other questions related to the scalability and sustainability of research-based interventions must be addressed in order to better understand how to increase the use of instructional practices that will improve student outcomes.

Clearly, much work needs to be done in high schools to set up comprehensive educational programs for SWDs. Schools need to have visions of how SWDs are to be educated in such a way that they can succeed in rigorous general education courses, and they need to have policies and procedures in place to match those visions. They also need to have service-delivery mechanisms for delivering intensive strategy instruction and research-based homework assistance to SWDs so that they can truly access the general education curriculum. Further, they need to restructure general education courses and their methods for assigning SWDs to general education courses so that these courses become learner friendly environments for these students and so that they can feel like valued and accepted members of the learning community.

Research is needed to address these whole-school issues. Ways of ensuring that school staff members create meaningful visions and policies for their schools need to be devised. Teachers need to be trained to use research-validated teaching methods and research-based instructional programs in such a way that they actually implement the programs. Administrators need to be trained to be instructional leaders such that they not only verbally support the new programs but that they also insist that the new programs be institutionalized and maintained. Ways for evaluating educational programs need to be devised and put into the hands of administrators. Until all these mechanisms are in place, SWDs will likely continue to flounder at the high school level, and they are not likely to have real access to the general education curriculum.

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